

REMARKS

This is intended as a full and complete response to the Final Office Action dated October 25, 2007, having a shortened statutory period for response set to expire on January 25, 2008. Please reconsider the claims pending in the application for reasons discussed below.

Claims 30-31 and 33-58 remain pending in the application and are shown above. Claims 30, 31, 37, 39-45 and 48-58 stand rejected and claims 33-36, 38, 46 and 47 stand withdrawn by the Examiner. Reconsideration of the rejected and withdrawn claims is requested for reasons presented below.

Examiner's Response to Argument

The Examiner asserts that the term “drive circuit” reads as an element comprising an input terminal and output terminals and *Jenkins*’ (U.S. Patent No. 6,437,596 to *Jenkins et al.*) data line select/hold circuit 319 teaches a drive circuit.

Applicants respectfully submits that the term “circuit” in the pending claims is not defined by input and output terminals, but rather by the term “drive”. For example, claim 30 refers in the preamble to “a drive electronics for driving an optoelectronic device with a matrix of picture elements.” Accordingly, the claimed subject matter is within a specific field. Within this specific technological field, the term “drive circuit” has a well known meaning to a person skilled in the art. For example, a search in the patent database of USPTO with the search term

((LCD AND display) AND (((“drive circuit” or “driving circuit”) or “drive circuitry”) or “driving circuitry”))
results in over 7000 hits. This demonstrates that the term “drive circuit” is commonly used in the technical field. Accordingly, the term cannot be arbitrarily defined because the term itself is known to a person skilled in the art.

Further, *Jenkins* shows and refers to a “drive module” or “drive circuitry” in column 5, lines 29-42, which reads,

[0031] It should be understood by those skilled in the art that when substrate 10 is assembled with a second substrate, spacers, liquid crystal material and a seal, the following components may not be present: the gate line select/hold circuitry 17 for the group, and pads, 21, 25, 27 and 28 for the group. In other words, substrate 10 may be cut to remove these elements. In this case, the substrate 10 includes gate line pads that interface to gate line driver circuitry for driving the gates lines of array during normal operation of the display system. In an alternate embodiment, the probe pad 21, select logic 201 and control pads 25 for the group may interface to the gate line driver circuitry and be integrated into the driving scheme for the array during normal operation.

Figure 1(A) shows a drive module 44 being a driver circuitry. Contrary to embodiments shown in figures of the present application, the drive module 44 is not provided on the substrate. Thus, a person skilled in art studying *Jenkins* would understand that a drive circuitry and a select/hold circuitry are two different entities referred by two terms.

Therefore, Examiner's assertion of the definition of "drive circuit" is not supported by the reference, *Jenkins*, cited by the Examiner and is not in agreement with the understanding of a person skilled in the art. Thus, the term "drive circuit" should be given patentable weight as it is understood by persons skilled in the art.

The Examiner also asserts that even though *Jenkins* and other references are silent in teaching "the arrangement of test contact area is larger than the arrangement of operational contact area" as set forth in the pending claims, it is obvious for the purpose of reducing the cost of the inspection device.

Applicant respectfully submits that although *Jenkins* refers to a need for a test system with minimal cost, *Jenkins* does not result at the claimed subject matter. The Examiner's assertion that having different sizes of contact areas is obvious is only hindsight with the knowledge of the present invention. Additionally, none of the additional references (U.S. Patent No. 6,636,288 to *Kim et al.*, U.S. Patent No. 5,432,461 to *Henley et al.*, and U.S. Patent No. 6,486,927 to *Kim*) includes any teaching, hint or suggestion

towards claimed subject matter, particularly, towards the feature “wherein the arrangement of the test contact area is larger than the arrangement of operational contact area”.

Regarding claim 30, the Examiner relies on hindsight from reading the present invention to conclude that the disclosing “wherein the first arrangement of contact arrears serve for picture generation during normal operation” is obvious from the combination of *Jenkins* and U.S. Patent No. 6,636,288 to *Kim et al.* The Examiner ignores the possibility of using the second arrangement of contact area for picture generation during normal operation, but in a hindsight approach refers directly to the first arrangement of contact area being used for normal operation. Thus, the specific combination of two references is considered by the Examiner as the specific choice (using the first arrangement for normal operation) is made. The specific choice is neither suggested or taught by any of the references cited.

Claim Rejections – 35 U.S.C. § 103

Claims 42-45 and 56 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jenkins*. Applicant respectfully traverses the rejection.

Jenkins discloses a test apparatus configured to provide a flexible interface between a testing system and a display array being tested so that the testing system can be used to test various display arrays (Abstract). *Jenkins* further discloses that the test apparatus includes gate lines 16, data lines 18, probe pads 21, 23 and select logic 17, 19. (Figure 1(A), column 2 line 37 – column 3 line 45). *Jenkins* also discloses that the test apparatus is formed in the same substrate 10 with the display array 12 and the test apparatus is to be broke off the substrate 10 from the display array 12 which is further integrated for normal operation (column 5 lines 29-38). However, *Jenkins* does not teach or suggest claimed subject matter.

Regarding claim 42, *Jenkins* does not teach or suggest an arrangement of a test contact areas connected to a drive circuit, wherein the drive circuit is provide with signals via an arrangement of operational contact areas during normal operation.

Therefore, *Jenkins* does not teach or suggest an arrangement of test contact areas for an optoelectronic device comprising a matrix of picture elements comprising at least one pad, at least one connection of the at least one pad with a drive circuit directly or via another component, wherein the drive circuit is provided with signals via an arrangement of operational contact areas during normal operation, wherein the arrangement of test contact areas are larger than the arrangement of operational contact areas, and the arrangement of test contact areas is configured for providing signals for generating a test pattern during test, as recited in claim 42, and claims dependent thereon.

Thus, claims 42-45 are in condition for allowance.

Jenkins also does not teach or suggest a method for manufacturing a drive electronics of an optoelectronic device having a matrix of picture elements, comprising, a) providing a drive circuit, b) connecting control lines of the matrix of picture elements with output terminals of the drive circuit, c) providing a first arrangement of contact areas, wherein the first arrangement of contact areas provides signals to the drive circuit during operation mode, d) connecting the first arrangement of contact areas with input terminals of the drive circuit, e) providing a second arrangement of contact areas, said second arrangement of contact areas being larger than the contact areas of said first arrangement of contact areas, wherein said second arrangement of contact areas serve for pattern generation during test mode, and f) connecting the second arrangement of contact areas with input terminals of the drive circuit directly or via another component, as recited in claim 56.

Thus, claim 56 is in condition for allowance.

Withdrawal of this rejection is respectfully requested.

Claims 30-31, 37, 39-41, 49-52 and 57-58 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jenkins* in view of *Kim et al* (U.S. Patent No. 6,636,288, hereafter *Pat'288*). Applicant respectfully traverses the rejection.

Jenkins is discussed above. *Jenkins* does not teach or suggest the claimed subject matter. Particularly, *Jenkins* does not teach or suggest a drive electronics comprises a drive circuit known to persons skilled in the art, a first arrangement of contact areas for picture generation during normal operation, and a second arrangement of contact areas for testing.

Pat'288 discloses a design of liquid crystal display. However, *Pat'288* does not teach or suggest a drive electronics, or a drive circuit as set forth in the pending claims and known to persons skilled in the art. The Examiner agrees that *Jenkins* fails to teach or suggest that a first arrangement of contact areas serves for picture generation during normal operation. However, the Examiner argues that it is obvious to use the first arrangement of contact areas during normal operation in view of column 1, lines 35-38 of *Pat'288*. The cited passage, in fact, teaches that gate and data pads are directly connected to external driving circuits. The Examiner relies on hindsight from reading the present invention to conclude that the disclosing "wherein the first arrangement of contact areas serve for picture generation during normal operation" is obvious from the combination of *Jenkins* and *Pat'288*. Therefore, neither *Jenkins* nor *Pat'288* teaches a drive electronics having contact areas connected to an input terminal of a drive circuit. Thus, the combination of *Jenkins* and *Pat'288* does not teach or suggest subject matter set forth in claim 30.

Accordingly, *Jenkins* and *Pat'288*, alone or in combination, do not teach or suggest a drive electronics for driving an optoelectronic device with a matrix of picture elements comprising a drive circuit, wherein the drive circuit comprises input terminals and output terminals, a first arrangement of contact areas connected with the input terminals of the drive circuit, wherein the first arrangement of contact areas serves for picture generation during operation, and a second arrangement of contact areas connected with the input terminals of the drive circuit directly or via another component, wherein the contact areas of the second arrangement of contact areas are larger than the contact areas of the first arrangement of contact areas, and the second arrangement of contact areas serves for pattern generation during test mode, as recited in claim 30, and claims dependent thereon.

Thus, claims 30-31, 37, 39-41, 49, and 57-58 are in condition for allowance.

Regarding claim 50, *Jenkins* and *Pat'288*, alone or in combination, do not teach or suggest a method for testing an optoelectronic device comprising a) making contact between an external control and an arrangement of test contact areas which are larger than operational contact areas, b) providing an input terminal of a drive circuit directly or via another component with input signals via the arrangement of test contact areas to generate a test pattern on a matrix of picture elements, wherein the drive circuit is provided with signals for picture generation during operation via the operational contact areas connected to the input terminal of the drive circuit, and c) testing the picture elements of the matrix of picture elements, as recited in claim 50, and claims dependent thereon.

Thus, claims 50-52, 55, and 57 are in condition for allowance.

Claim 53 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jenkins* and *Pat'288* as applied to claim 50 above, and further in view of *Henley* (U.S. Patent No. 5,432,461, hereafter *Henley*). Applicant respectfully traverses the rejection.

Henley teaches a test apparatus having a light source and an electro-optical element to detect light radiated by the light source (Figure 1, column 3 line 55). However, *Henley*, alone or in combination with *Jenkins*, does not teach or suggest a testing method set forth in claim 50 on which claim 53 depends.

Accordingly, the combination of *Jenkins* and *Henley*, does not teach or suggest a method for testing an optoelectronic device comprising a) making contact between an external control and an arrangement of test contact areas which are larger than operational contact areas, b) providing an input terminal of a drive circuit directly or via another component with input signals via the arrangement of test contact areas to generate a test pattern on a matrix of picture elements, wherein the drive circuit is provided with signals for picture generation during operation via the operational contact areas connected to the input terminal of the drive circuit, and c) testing the picture elements of the matrix of picture elements, as recited in claim 50, and claims dependent thereon.

Thus, claim 53 is in condition for allowance. Withdrawal of this rejection is respectfully requested.

Claim 54 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jenkins* and *Pat'288* as applied to claim 50 above, and further in view of *Kim* (U.S. Patent No. 6,486,927, hereafter *Pat'927*). Applicant respectfully traverses the rejection.

Pat'927 teaches an LCD testing system (Abstract). However, *Pat'927*, alone or in combination with *Jenkins*, does not teach or suggest a testing method set forth in claim 50 on which claim 54 depends.

Accordingly, the combination of *Jenkins* and *Pat'927*, does not teach or suggest a method for testing an optoelectronic device comprising a) making contact between an external control and an arrangement of test contact areas which are larger than operational contact areas, b) providing an input terminal of a drive circuit directly or via another component with input signals via the arrangement of test contact areas to generate a test pattern on a matrix of picture elements, wherein the drive circuit is provided with signals for picture generation during operation via the operational contact areas connected to the input terminal of the drive circuit, and c) testing the picture elements of the matrix of picture elements, as recited in claim 50, and claims dependent thereon.

Thus, claim 54 is in condition for allowance. Withdrawal of this rejection is respectfully requested.

Withdrawn Claims

The withdrawn claims 33-36, 38, 46 and 47 are dependent on independent claims 30 and 42 respectively. Thus, claims 33-36, 38, 46 and 47 are also allowable due to dependency on allowable base claims.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the Final Office Action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Although Applicant believes that no additional fees are due in connection with this response, the Commissioner is hereby authorized to charge counsel's Deposit Account No. 20-0782/ZIMR/0014/KMT, for any fees, including extension of time fees or excess claim fees, required to make this response timely and acceptable to the Office.

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